

Appl. No. 10/696,084
Amdt. Dated August 31, 2004
Reply to Office Action of June 28, 2004
Attorney Docket GEN001

REMARKS/ARGUMENTS

Claims 1-12 remain in this application. This Amendment is submitted in response to the Official Letter dated June 28, 2004. Favorable reconsideration of the application is respectfully requested.

1. Claims 6 and 12 stand rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description and enablement requirement. The Examiner stated:

"The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Additionally, the claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Applicant claims that the stubble is darkened by genetically altering the color of the stubble. However, Applicant's specification fails to describe how this genetic altering is accomplished. Genetic altering, or genetic engineering, is a complex endeavor. Applicant's two-sentence description of how a plant would be genetically altered does not convey to a reasonable artisan that the Applicant actually had possession of the genetically altered crop. Furthermore, even if Applicant did have possession, the description fails to convey to others in the art how to "make" their own genetically altered crop."

It has been consistently held that the first paragraph of 35 USC §112 requires nothing more than objective enablement. In satisfying the enablement requirement, an application need not teach, and preferably omits, that which is well-known. An application does not have to be a blueprint in order to satisfy the requirement for enablement under 35 USC §112, first paragraph. How such a teaching is set forth, whether by the use of illustrative examples or by broad descriptive terminology, is of no importance since an application which teaches how to make and use the invention in terms which correspond in scope to the claims must be taken as complying with the first paragraph of 35 USC §112.

Claims 6 and 12 specify a method wherein the darkened stubble is darkened by genetically altering the color of the stubble. The specification further provides such techniques for gene transformation of plant species may include, but are not limited to transformation vector, agroinfection, electroporation, and particle bombardment with a gene gun or microinjection. The darkened stubble and other plant matter may also be formed by using selective plant breeding techniques well known in the art.

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The specification need be enabling only to someone skilled in the relevant art. "Someone skilled in the art" means someone skilled in the art that is the most appropriate to practice the invention. It is not necessary to fill the application with a great amount of detail so that someone not skilled in the art can reproduce the invention. There is an assumption that anyone attempting to reproduce an invention will hire expert consultants for any special technical component.

It is known to plant biotechnologists that the color of the straw of any given plant depends on pigment accumulation in various cellular organelles. There are a great variety of straw colors among different plants. The stem of a living plant has a green appearance and when the plant senescence (dies) the number of chloroplasts and the amount of chlorophyll decrease. This allows the other pigments to be visualized.

One approach of generating plants with darker straw would be to first find the plants that naturally have a darker straw and analyze which genes are responsible. The genes coding for the darker pigments would be targeted to organellar genome to allow the pigment to accumulate in organelles. The genes would be selected to be silent for the most part until the senescence so that the pigment does not interfere with the normal physiological function of the plant. Ideally, a promoter would be used to trigger the pigment synthesis. For example, a promoter could be used to trigger pigment synthesis when the plants are about to be harvested to provide darkened stubble.

In view of the foregoing, when considered from the perspective of someone skilled in the art, it is respectfully submitted that Claims 6 and 12 do comply with the written description and enablement requirement. Reconsideration and withdrawal of the rejection are respectfully requested.

2. Claims 1-5, 7-11 stand rejected under 35 U.S.C. 102(e) as being anticipated by the "Managing Crop Residue in the Red River Valley" article. The Examiner stated:

"The "Managing Crop Residue" article discloses a method of no-till farming. Inherent in no-till farming are the steps of forming a furrow and introducing the seed within the furrow (see, e.g., the "Missouri No-Till Planting Systems" publication below). The article discloses that it is known to provide a darkened stubble by two ways. First, the article discloses that it is known to burn the stubble. Fields in which stubble have been burnt leave blackened stubble (both unburnt but charred stubble and stubble ash). Thus, the darkened stubble absorbs energy radiation. Second, the

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article discloses that, as an alternative to burning stubble, liquid hog manure can be applied to the stubble. This liquid hog manure darkens the stubble by the pigments within the hog manure. The stubble present is from cultivated crops. The method disclosed by the article is applicable to all cereal grains, which inherently includes wheat, barley, oats and rice. The stubble, no matter what color or pigment, will inherently absorb energy radiation."

It is respectfully submitted that "Managing Crop Residue in the Red River Valley" article is not a proper 102(e) reference. As noted by the Examiner, "[a] person shall be entitled to a patent unless (e) the invention was described in (1) an application for patent ... or (2) a patent granted on an application for patent...." The article is neither an application for patent nor a patent.

For at least the foregoing reasons, Claims 1-5, 7-11 are allowable over the applied art. Withdrawal of the rejection under 102(e) is respectfully requested.

3. Claims 1-4, 7-10 stand rejected under 35 U.S.C. 102(b) as being anticipated by the "Missouri No-Till Planting Systems" publication. The Examiner stated:

"The "Missouri No-till Planting Systems" publication (hereinafter, the "Missouri publication") discloses a method for no-till farming. The method comprises forming a furrow and introducing seeds within the furrow. The Missouri publication also discloses that before these steps are performed, the stubble is darkened by application of a burn-down herbicide, such Roundup. Roundup kills plants, turning them brown, thus darkening them. Stubble, no matter what color, absorbs energy from the sun. The Missouri publication also discloses that the method is performed using wheat as the stubble from the cultivated crop.

It is respectfully submitted that "Managing Crop Residue in the Red River Valley" article is not a proper 102(b) reference. 102(b) states that "[a] person shall be entitled to a patent unless - (b) the invention was ... described in a printed publication ... more than one year prior to the date of application for patent in the United States. The article appears to have been published on October 31, 2002. The present application was filed on October 29, 2003. Consequently, the printed publication is *less than* one year prior to the date of application for patent and not a valid reference under 35 USC 102(b).

For at least the foregoing reasons Claims 1-4 and 7-10 are allowable over the applied art. Withdrawal of the rejection is respectfully requested.

4. Claims 1 and 7 stand rejected under 35 U.S.C. 102(b) as being anticipated by U.S.

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Patent No. 4,765,262 to Morgan. The Examiner stated:

"The Morgan '262 patent discloses a drill for performing a method of no-till farming. The method comprises forming a furrow and introducing seed into the furrow. Due to the time pressures faced in agriculture, where there is a window of opportunity for sowing seed, the drill of the Morgan '262 patent will inevitably be used at night. Thus, the stubble would be darkened. But the stubble will still absorb energy radiation (e.g. heat) from the ambient air."

In order for a reference to be an anticipatory reference, the reference must disclose each and every element of the claimed invention. It is respectfully submitted that Morgan does not teach or suggest all the elements recited in the claims.

Applicants invention specifies that the term "darkened" refers to a change in the color of the cultivated crop from the naturally occurring color to a more darker hue than that heretofore naturally occurring for the cultivated crop. The darkened stubble is residues of cultivated crops such as cereal grains or other cultivated crops, for example, flax and canola grains. Clearly, use of a drill at "night" does not result in darkened stubble as the term darkened is defined and claimed by applicant.

For at least the foregoing reasons, Claims 1 and 7 are allowable over the applied art. Withdrawal of the rejection is respectfully requested.

5. Claims 6 and 12 stand rejected under 35 U.S.C. 103(a) as being unpatentable over the "Missouri No-Till Planting Systems" publication. The Examiner stated:

"As noted above, claims 6 and 12 are rejected under 35 U.S.C. 112 for lack of written description and enablement. However, even if one of ordinary skill in the art would have known how to genetically modify the stubble to change the color, providing genetically modified stubble to achieve a dark color would have been obvious, since the Missouri publication is not limited to particular crop residues but is applicable to all crop residues."

To establish a *prima facie* case of obviousness, three criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the applied reference must teach or suggest all the claim limitations (See MPEP §2143).

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It is respectfully submitted that the Missouri publication does not teach or suggest all the claim limitations. The Missouri publication teaches the application of herbicides to control weeds. In contrast, the darkened stubble of the present invention as claimed is residues of cultivated crops - not weeds.

For at least the foregoing reasons, Claims 6 and 12 are allowable over the applied art. Withdrawal of the rejection is respectfully requested.

Extension of Time

Applicant hereby Petitions for an extension of time of one month from the Office Action date of June 28, 2004, until October 28, 2004. A credit card payment form is enclosed.

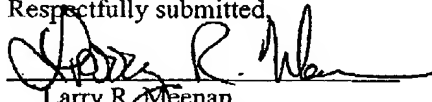
Request For Telephone Interview

As a final matter, if the Examiner has any suggestions concerning different claim phraseology that, in the opinion of the Examiner, more accurately defines the present invention, prior to issuance of another Office Action, Applicant's undersigned attorney requests the courtesy of a telephone interview at the Examiner's earliest convenience to discuss the application. Applicant's undersigned attorney may be contacted at (724) 712-3141.

Conclusion

In view of the amendments and above remarks, it is believed that the application is in condition for allowance. Accordingly, an early Notice Of Allowance is respectfully requested.

Respectfully submitted



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